FIG.8

TIME DIMENSIONAL LAYER RULE DEFINITION DATA   3110

```
#LAYER RULE :
#AFTER CHARACTER ROW CONVERSION ON MEMBER, OBTAINING LAYER INFORMATION

FROM MEMBER NAME
LEVEL10= $ MEMBER NAME
LEVEL11={
    S/¥(.... \ )0[123]/ \ 1Q1/
    S/¥(.... \ )0[456]/ \ 1Q2/
    S/¥(.... \ )0[789]/ \ 1Q3/
    S/¥(.... \ )1[012]/ ¥ 1Q4/
]
LEVEL12={
    S/ \ (.... \ )../ \ 1/
]
```

FIG.17

```
      ┌─────────────────────────┐
      │     LAYER STRUCTURE      │──── 90B
      │ INFORMATION UPDATE PROCESS │
      └─────────────────────────┘
                  │
                  ▼
           ╱─────────────╲        9021
         ╱    LAYER        ╲
       ╱ INFORMATION GENERATED FROM ╲   YES
      ⟨  RDB ACCORDING TO         ⟩──────────┐
       ╲   LAYER RULE?  ╱                     │
         ╲             ╱                      │
           ╲─────────╱                        │
              │                               ▼
              │ NO              ┌──────────────────────────┐   9022
              │                 │     CONNECTING TO RDB     │
              │                 └──────────────────────────┘
              │                               │
              │                               ▼
              │                 ┌──────────────────────────┐   9023
              │                 │ WITH THE SPECIFIED MEMBER │
              │                 │ AND PARAMETERS IN HIERARCHY│
              │                 │ RULE                      │
              │                 └──────────────────────────┘
              │                               │
              │                               ▼
              │                 ┌──────────────────────────┐   9024
              │                 │ AFTER GENERATING LAYER INFORMATION │
              │                 │ FROM THE ABOVE INQUIRY RESULTS,     │
              │                 │ STORING AT LAYER STRUCTURE          │
              │                 │ INFORMATION                         │
              │                 └──────────────────────────┘
              │                               │
              ▼                               │
           ┌──────┐◄─────────────────────────┘
           │ END  │
           └──────┘
```
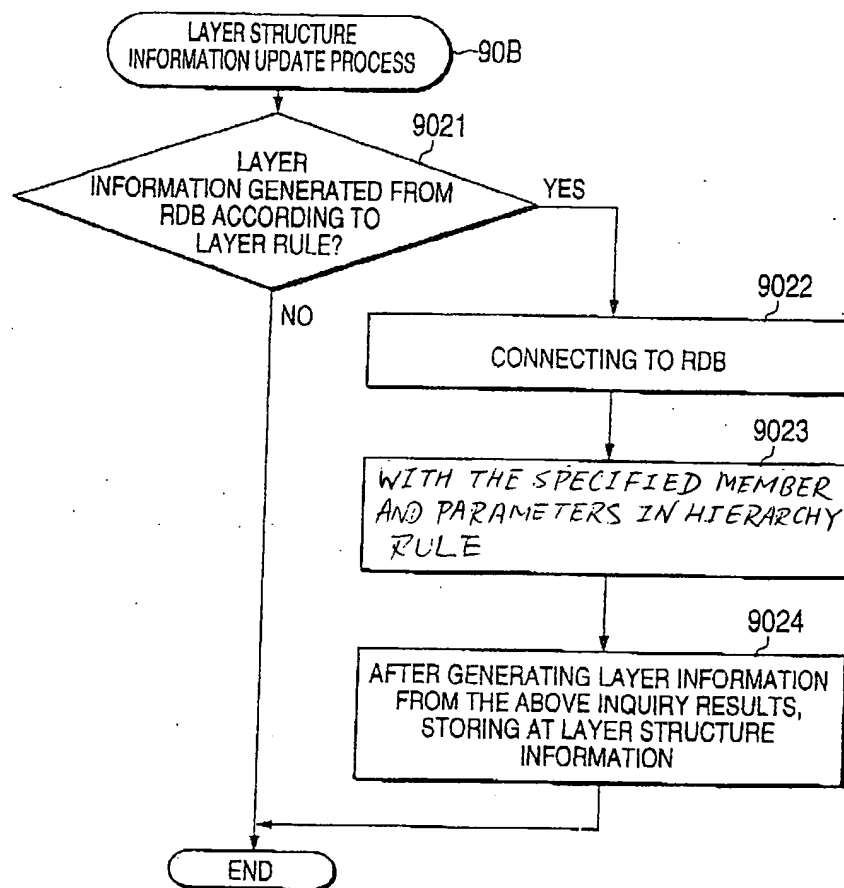
FIG.26

RETAIL STORE DIMENSION LAYER DEFINITION DATA

```
#MAIN LAYER RULE:
#SEQUENTIALLY APPLYING SUBRULES
APPLYING SUBRULE STORE_RULE1
APPLYING SUBRULE STORE_RULE2
```
~3140

```
#SUB LAYER RULE :STORE_RULE1
#FROM CSV FILE,OBTAINING LAYER INFORMATION
FROM FILE,CSV FILE1
LEVEL 0=COLUMN 3
LEVEL 1=COLUMN 2
LEVEL 2=COLUMN 1
```
~3141

```
#SUB LAYER RULE:STORE_RULE 2:
#AFTER CHARACTER ROW CONVERSION ON RETAIL STORE, OBTAINING LAYER INFORMATION
FROM MEMBER NAME
LEVEL 0= $ MEMBER NAME
LEVEL1={
    S/\(.JAPAN\).$/\1/.
}
LEVEL 2={
    ALL SALES TERRITORIES
}
```
~3142

FIG.27

3340

```
199901,  EASTERN JAPAN  SAPPORO STORE, TVS,17, 1870000
199902,  HIROSHIMA STORE, VIDEOS, 42, 2940000
199903,  EASTERN JAPAN  SAPPORO STORE, REFRIGERATOR,15,1350000
```
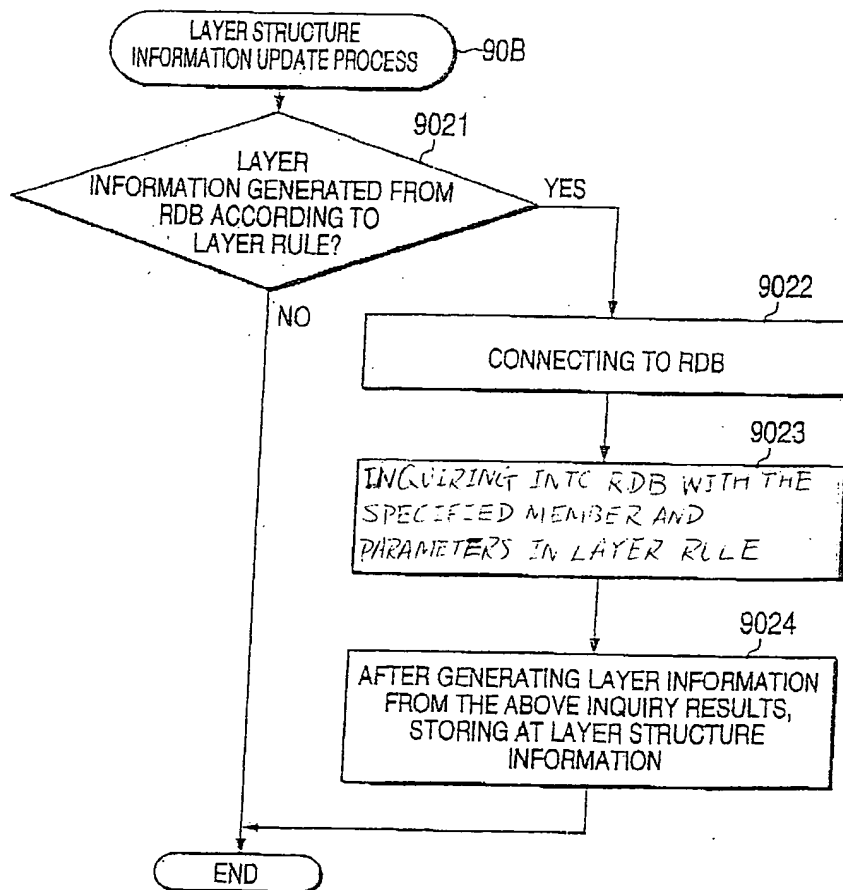
FIG.17

```
        ┌────────────────────────┐
        │   LAYER STRUCTURE      │── 90B
        │ INFORMATION UPDATE PROCESS │
        └────────────────────────┘
                    │
                    ▼
            ╱───────────────╲         9021
          ╱     LAYER         ╲
         ╱ INFORMATION GENERATED FROM ╲   YES
        ╱   RDB ACCORDING TO   ╲──────────┐
         ╲   LAYER RULE?      ╱           │
          ╲                 ╱             │
            ╲───────────────╱             │
                    │ NO                  │
                    │                     ▼           9022
                    │         ┌─────────────────────────┐
                    │         │    CONNECTING TO RDB     │
                    │         └─────────────────────────┘
                    │                     │
                    │                     ▼           9023
                    │         ┌─────────────────────────┐
                    │         │ INQUIRING INTO RDB WITH THE │
                    │         │ SPECIFIED MEMBER AND     │
                    │         │ PARAMETERS IN LAYER RULE │
                    │         └─────────────────────────┘
                    │                     │
                    │                     ▼           9024
                    │         ┌─────────────────────────┐
                    │         │ AFTER GENERATING LAYER INFORMATION │
                    │         │ FROM THE ABOVE INQUIRY RESULTS, │
                    │         │ STORING AT LAYER STRUCTURE │
                    │         │      INFORMATION        │
                    │         └─────────────────────────┘
                    │                     │
                    ▼◄────────────────────┘
            ┌──────────────┐
            │     END      │
            └──────────────┘
```

FIG.15

MERCHANDISE DIMENSIONAL LAYER RULE DEFINITION DATA   3130

```
#LAYER RULE : RDB TABLE 'PRODUCT MASTER TABLE'
#OBTAINING FROM COL1,COL2
FROM RDB TABLE 'PRODUCT MASTER TABLE'
LEVEL 0=SMALL CLASSIFICATION
LEVEL 1=LARGE CLASSIFICATION
LEVEL 2="ALL MERCHANDISE"
```

FIG.16

CONTENT OF RDB PRODUCT MASTER TABLE

LARGE CLASSIFICATION	SMALL CLASSIFICATION
HOME APPLIANCE HOME APPLIANCE AV AV COMPUTERS	WASHERS REFRIGERATORS TVs VIDEOS PCs

261

FIG.11

RETAIL STORE DIMENSIONAL LAYER RULE DEFINITION DATA   3120

```
#LAYER RULE :
#OBTAINING LAYER INFORMATION FROM CSV FORMATTED FILE

FROM FILE,CSV FILE1
LEVEL0=COLUMN 3
LEVEL1=COLUMN 2
LEVEL2=COLUMN 1
```

FIG.12

3126

```
ALL AREAS,EASTERN JAPAN,CHIBA STORE
ALL AREAS,EASTERN JAPAN,SAITAMA STORE
ALL AREAS,EASTERN JAPAN,YOKOHAMA STORE
ALL AREAS,WESTERN JAPAN,OSAKA STORE
ALL AREAS,WESTERN JAPAN,HIROSHIMA STORE
```

FIG.8

TIME DIMENSIONAL LAYER RULE DEFINITION DATA 3110

```
#LAYER RULE :
#AFTER CHARACTER ROW CONVERSION ON MEMBER, OBTAINING LAYER INFORMATION

FROM MEMBER NAME
LEVEL10= $ MEMBER NAME
LEVEL11={
   S/¥(.... \)0[123]/\1Q1/
   S/¥(.... \)0[456]/\1Q2/
   S/¥(.... \)0[789]/\1Q3/
   S/¥(.... \)1[012]/\1Q4/
]
LEVEL12={
   S/  (.... \)../\1/
]
```